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Hiroshi Shinmen

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EXAMINER

NGUYEN, TUYEN T

ART UNIT

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2832

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, there lacks sufficient structure to support the functional language of “wherein the magnetic characteristics, coverage area, and thickness of the magnetic resin *are adjusted so that the primary and the secondary windings have respective predetermined leakage inductances.*” Applicant should clarify such “adjustment” in order to have “*predetermined leakage inductances.*”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, as best understood in view of the rejection under 35 USC 112 second paragraph, are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki [US 6,714,111 B2] in view of Saito et al. [JP 2002-141227].

Art Unit: 2832

Suzuki discloses an inverter transformer comprising:

- at least one winding unit comprising a bar-shaped magnetic core [23a, 23b], a primary winding [24] and a secondary winding [25a, 25b] wound around the bar-shaped magnetic core;
- an external unit [21] surrounding a transformer body.

Suzuki discloses the instant claimed invention except for a magnetic resin.

Saito et al. discloses a magnetic inductor device comprising:

- a bar-shaped core [11];
- a coil [12] wound about the bar-shaped core;
- a magnetic ferrite resin [13b] disposed around the coil and the bar-shaped core; and
- an external unit [13a] surrounding the magnetic resin/the coil and the bar-shaped core.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to include magnetic resin about the winding unit of Suzuki, as suggested by Saito et al., for the purpose of providing magnetic shielding.

The structure of Suzuki in view of Saito et al., *when adjusted*, would have predetermined leakage inductances and influence caused by leakage flux and imposed on components and wires arranged around the inverter transformer is reduced while influence coming from outside and given to magnetic characteristics of the inverter transformer is reduced. [note, these features are functional language.]

Regarding claims 2-3 and 9, the specific arrangement of magnetic resin and the specific magnetic relative permeability would have been an obvious design consideration for the purpose of improving magnetic shielding.

Regarding claims 4-5 and 8, the specific flux density of the external unit, the specific magnetic resistance, the specific material of the external unit would have been an obvious design consideration for the purpose of enhancing magnetic properties.

Regarding claims 6-7, the specific configuration of the external unit would have been an obvious design consideration based on the intended applications/environments use.

Regarding claim 10, iron power is a known material for use in magnetic device.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2832

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUYEN T. NGUYEN whose telephone number is 571-272-1996. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ELVIN ENAD can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN
/TUYEN T NGUYEN/
Primary Examiner, Art Unit 2832